

BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2011-515-W

**IN RE: Application of Utility Services of South,)
Carolina, Inc., for Approval of a Water Supply)
Agreement between Utilities Services of South)
Carolina, Inc., and York County to serve Foxwood)
Subdivision in York County)**

**DIRECT TESTIMONY
OF
PATRICK FLYNN**

Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.

A. My name is Patrick C. Flynn. My business address is 200 Weathersfield Avenue, Altamonte Springs, Florida 32714.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I have been a Regional Director at Utilities, Inc. since 2003 and have managed as many as 22 subsidiaries of Utilities, Inc. including Utilities Services of South Carolina, Inc. which is most commonly known as USSC. My duties encompass all aspects of utility operations in the Southeast Region of Utilities, Inc., which includes the states of South Carolina and Florida. My responsibilities include the management of a staff of 116 people, 42 of whom are employed in South Carolina; the development and execution of operating and capital budgets of 18 companies; supervision and support of all rate case and docket activity in my region; the representative of the utility with respect to all regulatory activities and developer agreements; and the management of a 134-unit vehicle fleet.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

1 A. I am a 1978 graduate of the University of Virginia with a Bachelor of Arts degree in
2 Environmental Science. All told, I have 32 years of experience in the water and wastewater
3 industry. I have been a licensed operator in South Carolina, Florida, Louisiana, and Maryland.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

5 A. My testimony will support USSC's Application for the approval of a water supply agreement
6 between USSC and York County. In addition, my testimony will explain the terms of the water
7 supply agreement and its impact on USSC's customers.

8 **Q. PLEASE DESCRIBE THE TERMS OF THE WATER SUPPLY AGREEMENT**
9 **WITH YORK COUNTY.**

10 A. USSC and York County have negotiated a water supply agreement whereby York County will
11 provide potable water service to the applicant at a point at or near the Foxwood Subdivision for
12 distribution to USSC's customers. Under the terms of the contract, York County will provide
13 potable water service to the Applicant at a rate of \$3.26 per thousand gallons with a base charge of
14 \$332.81 per month for water service provided through a four-inch master meter. In addition,
15 USSC will pay York County \$28,764 in water connection fees as per York County's current water
16 and sewer fee schedule. USSC anticipates that its total cost to make the interconnection with
17 York County will be approximately \$150,000 inclusive of the \$28,764 connection fee. Please see
18 the Water Supply Agreement attached to my testimony as Exhibit 1.

19 **Q. THE OPERATION OF THE WATER SYSTEM SERVING THE FOXWOOD**
20 **CUSTOMERS IS SOMEWHAT UNUSUAL. PLEASE DESCRIBE THE OPERATIONS**
21 **OF THE WATER SYSTEM.**

22 A. At the time USSC acquired the system serving the Foxwood Subdivision from US Utilities,
23 Inc. in 2002, potable water provided to USSC's Foxwood customers was pumped from either of
24 two wells, (Wells 4 and 5) located on the property of Wikoff Color Corporation situated near the

1 Foxwood Subdivision. Under the terms of a 1987 agreement between the predecessor to US
2 Utilities, Blue Ribbon Water Company (Blue Ribbon), USSC has complete control over access,
3 operation, maintenance, repair, management, and monitoring of the Foxwood water system. In
4 addition, Wikoff personnel perform maintenance and repairs on the water treatment equipment at
5 Well 4 and the well pump control panel when its personnel are available to do so and at the
6 direction of USSC's licensed water treatment operators. Also, Wikoff has the option to shut
7 down Wells 4 and 5 with twelve (12) months prior notice given to USSC or by agreement with
8 USSC.

9 **Q. PLEASE DESCRIBE THE FOXWOOD WATER SYSTEM.**

10 **A.** The water production and storage facilities at Foxwood consist of five (5) water supply wells
11 and one 15,000-gallon elevated storage tank. The water system has 222 taps and serves a
12 population of approximately 420 customers. USSC owns two wells, Wells 1 and 2, which it
13 acquired from US Utilities in 2002. Wikoff Color Corporation owns three wells, Wells 3, 4 and 5.
14 As I testified, at this time, only two of the five wells are in operation. Two wells are standby wells
15 (Wells 2 and 3) and the fifth well, Well 1, is off line.

16 **Q. HOW DID USSC DETERMINE THE NEED FOR THE INTERCONNECTION WITH**
17 **YORK COUNTY?**

18 **A.** The existing water supply at Foxwood is less than ideal for the provision of consistent water
19 service to USSC's Foxwood customers. The 15,000-gallon elevated water storage tank installed
20 with the original development is undersized to consistently meet the demand of the Foxwood
21 customer base. In addition, it will require a major capital investment to replace the tank, on the
22 order of \$500,000, an amount that would require a larger increase in rates beyond that which will
23 ultimately result from the interconnect if the current system is to remain in service. This storage
24 tank was bought used in 1971, was installed in 1973, and is near the end of its useful service life.

1 There is no other water storage tank at Foxwood, which makes it nearly impossible to take the
2 elevated tank out of service for a time period sufficient to empty the tank, evaluate the interior
3 condition, and correct any deficiencies that may be found without negatively affecting the
4 provision of water service to the customers. The maximum water pressure that can be generated in
5 the Foxwood Subdivision at the highest ground elevation in the subdivision is approximately 35
6 psi which is a function of the difference in elevation between the maximum water level in the
7 storage tank and the elevation of the customer tap located adjacent to the storage tank. In our
8 opinion, the storage tank was originally constructed at too low of a height and too small in size to
9 provide adequate system pressure when the water demand is high, especially during times when
10 outdoor water use is common. The two primary water supply Wells, 4 and 5, are located on
11 Wikoff Color Corporation property and are limited in output because of the size of the wells and
12 the limited capacity of the aquifer to produce water from those wells. The existing wells are not
13 designed or constructed in such a way that they can be upsized with larger pumps. These Foxwood
14 water supply wells are simply unable to offer any improved service beyond the current water
15 supply during peak demand periods without adversely impacting the quality of service to USSC's
16 customers. Volatile organic chemicals were first detected at Well 1 in 1990 and have been
17 detected in subsequent testing in groundwater samples taken at all five well locations. This
18 indicates that groundwater quality is worsening over time and distance. The groundwater is also
19 highly mineralized with significant amounts of iron, calcium, sulfur and manganese present that
20 generate taste, odor and color complaints and cause scale buildup on glassware. Adding water
21 treatment equipment to the existing wells will tend to reduce the net well output and exacerbate
22 water shortage conditions during peak demand periods. In addition, drilling and developing
23 additional water supply wells or upsizing the pumping capacity of the existing well pumps is not a
24 likely alternative because of the documented poor quality of ground water in the immediate area as

1 well as low transmissivity in the water-bearing zones. Because volatile organic chemicals have
2 been detected at all five wells, it is unlikely that drilling new wells into the same aquifer will
3 produce pristine water. Quite simply, there is relatively little quality groundwater volume
4 available. And the water that is available is highly mineralized or impacted by volatile organic
5 chemicals.

6 **Q. HAS THE AGE AND CONDITION OF THE SYSTEM GIVEN RISE TO SERVICE**
7 **ISSUES?**

8 **A.** Yes. There were eight unplanned system-wide water outages in 2011, most of which were
9 due to failures of the well pump controls. After Wikoff replaced the well controls last summer and
10 after USSC installed remote monitoring equipment that notifies utility personnel of loss of power
11 and low pressure, USSC was able to markedly improve the reliability of the system. Other than the
12 recent outage caused by an individual damaging pipe when digging near a water main without
13 asking for underground utilities to be located, there has been no system-wide outage in 2012.
14 Nevertheless, replacing the well controls did not address the underlying issues of small wells
15 producing decreasing water volume, limited finished water storage capacity, and inferior water
16 quality in the aquifer.

17 **Q. PLEASE DESCRIBE THE BENEFITS OF THE INTERCONNECTION**
18 **AGREEMENT WITH YORK COUNTY.**

19 **A.** The interconnection with York County would provide a dramatically better quality of service
20 to Foxwood residents. Interconnection with York County provides USSC with a water source
21 that meets all current water quality limits,(as does USSC's supply, but also addresses the aesthetic
22 issues and the presence of contaminants (even though the concentration is less than the maximum
23 contaminant level). York County can provide water that does not contain elevated levels of iron,
24 manganese, sulfur and calcium hardness, or two volatile organic compounds, perchloroethylene

1 and trichloroethylene, all of which are present in the current source water. York County's water
2 system is able to provide ample water volume at a consistent pressure at the point of connection at
3 all times, including peak demand periods. By virtue of having access to York's much larger water
4 storage tanks, USSC staff will have sufficient volume and pressure present to allow for thoroughly
5 flushing the Foxwood distribution system. York has a well-established track record of providing
6 reliable service, has a stable rate structure and a willingness to be a bulk water provider to USSC in
7 the Foxwood system on a permanent basis.

8 **Q. WILL THE INTERCONNECTION TO YORK COUNTY ADEQUATELY ADDRESS**
9 **THE CURRENT QUALITY PROBLEMS?**

10 A. Yes. In contrast to the quality of the groundwater in the vicinity of the Foxwood subdivision,
11 York County's water supply is low in minerals such as iron and manganese, the water is softer and
12 volatile organic chemicals are not present. The interconnection represents the best and least costly
13 means to resolve the longstanding water supply and storage issues that are present at Foxwood.

14 **Q. PLEASE DESCRIBE THE PROJECT TO INTERCONNECT WITH YORK**
15 **COUNTY IN MORE DETAIL.**

16 A. USSC will invest the capital required to extend a twelve-inch water main approximately
17 540 linear feet from the current terminus of York County's water main on Merritt Road to a point
18 of connection at the Foxwood Subdivision's nearest entrance. A master flow meter and pressure
19 control valve will be installed at the point of interconnection. The pressure control valve is
20 designed to maintain the water pressure in the Foxwood distribution system within a nominal
21 range of 40-45 psi at the highest elevation and 70-75 psi at the lowest elevation in the subdivision,
22 which reflects the approximately 80 foot drop in elevation across the neighborhood. The existing
23 wells will be physically disconnected from the Foxwood distribution system and used thereafter as
24 groundwater monitoring sites. Wikoff's Well 4 will be used as a non-potable water source for use

1 in support of its manufacturing process and to supply its cooling system. The elevated water tank
2 will be physically disconnected from the distribution system, disassembled and removed from the
3 site once the interconnection is placed into service. The cost of the water tower's removal is
4 included in USSC's project budget. Please see the plans and specifications for the Foxwood
5 Water Line Extension attached to my testimony as Exhibit 2.

6 **Q. THERE WAS A CONCERN RAISED AT THE PUBLIC HEARING THAT USSC'S**
7 **FOXWOOD CUSTOMERS WOULD HAVE TO PAY FOR THE COST OF WATER**
8 **USED FOR FLUSHING USSC'S WATER LINES IF THE WATER SUPPLY**
9 **AGREEMENT IS APPROVED. PLEASE ADDRESS THIS CONCERN.**

10 **A.** Under the terms of the water supply agreement with York County, USSC will pay York
11 County on a monthly basis for the aggregate volume of water used by the Foxwood customers as
12 measured by the water meters located at each premises. USSC will also pay a monthly meter fee of
13 \$332.81 for water service delivered through a four-inch meter in conformance with York's water
14 and sewer rate schedule currently in effect and subject to change by York County from time to
15 time. York County will not bill USSC for water used for flushing USSC's distribution system or
16 for any other non-metered water use. Thus, the Foxwood customers will be billed only for the cost
17 of water they actually use at their home.

18 **Q. THERE WAS CONCERN RAISED AT THE PUBLIC HEARING THAT THE**
19 **EXISTING PIPE NETWORK IN FOXWOOD WOULD CONTRIBUTE TO POOR**
20 **QUALITY EVEN AFTER THE INTERCONNECTION. PLEASE ADDRESS THIS**
21 **CONCERN.**

22 **A.** The Foxwood distribution system is composed of PVC water mains and either PVC or
23 polyethylene service lines, all of which have a remaining service life sufficient to meet current
24 demands. Because PVC is a plastic material, it does not corrode or contribute to taste, color or odor

1 complaints. It is not rusting or in imminent danger of failure. Therefore, it would be imprudent to
2 replace pipe that is still functional and has a significant number of years of service life remaining,
3 notwithstanding damage caused by improper excavation methods, lightning strikes, or other
4 external factors.

5 **Q. OF CONCERN TO YOUR CUSTOMERS WAS THE LEVEL OF WATER**
6 **PRESSURE AFTER THE INTERCONNECTION IS IN SERVICE. PLEASE ADDRESS**
7 **THIS CONCERN.**

8 **A.** System pressure as supplied by York County will be regulated at the point of connection
9 through a pressure control valve that will be set to maintain pressure over a small operating range,
10 approximately 40 psi at the north entrance to the neighborhood and increasing as the ground
11 elevation decreases across the neighborhood. The interconnection has been designed so that water
12 pressure will fluctuate very little, approximately 5 psi up or down. Once the interconnection is in
13 service, Utility staff will flush the distribution system beginning at the point of connection on
14 Merritt Road and utilizing flushing valves located throughout the subdivision. In order for this
15 flushing effort to be effective, the water velocity in the water mains needs to be greater than 2.5
16 feet per second in order to scour sediment that has accumulated in the pipes, suspend the sediment
17 in the water, and then transport it out of the mains through the flushing valves. In the current
18 condition, staff are unable to generate adequate velocity for long enough duration to scour the
19 pipes due to the limitations of the water storage tank. After the interconnection is in service,
20 system flushing will be done uni-directionally, as recommended by the American Waterworks
21 Association, in order to remove the maximum amount of sediment and mineral deposits from the
22 piping network. Flushing will take place after giving the customers prior notice by phone message.
23 We will repeat the flushing activity periodically (with prior notice) until the sediment has been
24 removed from the system. The vast majority of the sediment and minerals will be removed in this

1 process, but some material will likely be evident at the tap. This should be remedied by running a
2 faucet or hose bibb until it clears up.

3 **Q. CUSTOMERS EXPRESSED CONCERN THAT THE WATER PRESSURE WILL**
4 **CAUSE DAMAGE BY PUSHING SEDIMENT THROUGH THE SERVICE LINES AND**
5 **INTO CUSTOMERS' PLUMBING. WILL THIS OCCUR AND HOW WILL USSC**
6 **ADDRESS THIS?**

7 **A.** By virtue of having York County as the water source, Utility staff will have the means to
8 thoroughly flush the distribution system for long enough duration to scour the sediment from the
9 interior of the pipes, suspend the sediment in the water, and carry the sediment to the various
10 flushing points. In this way, the vast majority of the minerals that has built up over time will be
11 removed. It is expected that customers will experience turbid water at their tap for a short time
12 immediately after flushing takes place, but running a hose bibb or faucet for a short while should
13 remedy the situation. Utility personnel will be responsive to customer complaints during and after
14 this process. Customers will be instructed in the flushing notice to contact Customer Service at
15 800/272-1919 should they have any questions or concerns.

16 **Q. WHAT IS THE STATUS OF THE ENGINEERING DESIGN, PERMITTING AND**
17 **BIDDING PROCESS?**

18 **A.** The interconnection's design was completed in September of 2011. The South Carolina
19 Department of Health and Environmental Control issued a construction permit for this project in
20 October 2011. USSC obtained bids from three qualified utility contractors shortly thereafter with
21 the low bidder selected. Since the bid process occurred over seven months ago, it may be
22 necessary to rebid the project if the selected contractor is unable or unwilling to commit to the
23 original bid amount, in which case, the project budget will be adjusted accordingly.

24 **Q. WHAT HAPPENS IF USSC IS NOT PERMITTED TO INTERCONNECT WITH**

1 YORK COUNTY?

2 **A.** USSC will be severely limited in its ability to provide improved water service (both pressure
3 and volume) to its Foxwood customers. Alternatives would require even more significant
4 additional capital expenditures above and beyond the \$150,000 contemplated in this project (e.g.
5 engineering design, permitting and construction of a larger and taller water tower or a large ground
6 storage tank with pumping equipment; design, permitting and construction of water treatment
7 facilities to remove minerals and volatile organic chemicals; construction of test wells in an effort
8 to locate a better quality and more productive water source; construction of two supply wells if a
9 better source water is found; dismantling and removal of the existing storage tank; and
10 disconnection of the existing wells from the system). It is anticipated that Wikoff Color
11 Corporation will independently obtain potable water service from York County as well as
12 establish York as a backup water source for their manufacturing process and cooling requirements.
13 It is likely that Wikoff will then notify USSC that Well 5 will be shut down. Without the well
14 production capacity provided from Well 5, USSC would be forced to locate and develop an
15 alternate water source. On its face, it is clearly evident that the capital expenditures necessary to
16 provide an acceptable alternative remedy to the Foxwood customers' complaints would be greatly
17 in excess of the \$150,000 budgeted for this project.

18 **Q. HOW DOES THE APPLICANT PROPOSE THE INTERCONNECTION COST BE**
19 **TREATED IN THIS PROCEEDING?**

20 **A.** As I have testified, under the water supply agreement, USSC will have paid York County
21 \$28,764 in water tap fees to serve the Foxwood Subdivision through a four-inch potable water
22 connection. While these costs are in the nature of connection fees which may be charged to
23 Applicant's customers on a pro rata basis without markup, USSC instead seeks an order of this
24 Commission authorizing USSC to record these costs as utility plant in service additions subject to

1 review and audit by the Office of Regulatory Staff in the company's next rate proceeding.

2 Similarly, any additional costs subsequently incurred to complete the interconnection and
3 dismantle certain of the existing water facilities would be addressed in the company's next rate
4 proceeding as well.

5 **Q. PLEASE DESCRIBE THE IMPACT ON A TYPICAL FOXWOOD CUSTOMER'S**
6 **BILL IF THE APPLICATION IS GRANTED.**

7 **A.** Currently, USSC is charging its customers rates placed into effect under bond in Docket
8 No. 2007- 286-W/S. If the application is granted, USSC's "pass through" provisions of its tariff
9 will be applied to the Foxwood water bills. When USSC's pass through rate is applied to a
10 Foxwood customer using 6,000 gallons of water per month, that customer would see his bill
11 increase by approximately \$6.13 per month.

12 **Q. CAN YOU PROVIDE AN EXAMPLE OF A TYPICAL 'NEW' BILL WITH**
13 **VARIOUS LINE ITEMS IDENTIFIED?**

14 **A.** An average Foxwood bill would look similar to the one attached to my testimony as Exhibit 3
15 and would result in delivery of clean, safe drinking water to your homes at a cost of less than 2
16 cents per gallon.

17 **Q. WHAT IS YOUR RECOMMENDATION TO THIS COMMISSION CONCERNING**
18 **THE WATER SUPPLY AGREEMENT WITH YORK COUNTY?**

19 **A.** I would urge the Commission to grant USSC's Application in this docket and approve the
20 water supply agreement with York County. The interconnection agreement with York County is
21 in the public interest and will benefit USSC's Foxwood customers.

22 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

23 **A.** Yes it does.

24